



Translated Paper

A shift from “habitat pour le plus grand nombre” to “habitat évolutif” in post-war francophonie: A study on the history of international and regional exchange activity of ATBAT (Atelier des Bâisseurs), part 2

Kosuke Matsubara 

Faculty of Engineering, Information and Systems, Division of Policy and Planning Sciences, University of Tsukuba, Tsukuba-shi, Ibaraki, Japan

Correspondence

Kosuke Matsubara, Faculty of Engineering, Information and Systems, Division of Policy and Planning Sciences, University of Tsukuba, 1-1-1, Tennodai, Tsukuba-shi, Ibaraki 305-8577, Japan.
Email: matsub@sk.tsukuba.ac.jp

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Abstract

As a continuation of my previous paper “Part 1” which is titled “Formation and change of an international exchange organization,” the scope of this paper encompasses the period of ATBAT (*Atelier des Bâisseurs*)’s work in Morocco, via the manifestation at CIAM 9, up to the point of their separation. In this paper I also conduct certain planning studies for the purpose of examining how the “habitat pour le plus grand nombre (hereafter ‘housing for the greatest number’)” movement led to the “Évolutif (evolutionary)” concept; finally to the planning method known as “Habitat Évolutif (Evolutionary Housing)” is examined. The way in which this last method was concretized through the exchange of ideas proposed by members particularly those proposed by Banshoya are elaborately examined. The most important roles played by ATBAT was (1) to expand the idea of new housing style suggested by Le Corbusier based on their technical research, and (2) to examine it with general people including slum residents in the various cities in Francophonie, and (3) to find the planning methods of *Habitat Evolutif*. The beginning of the idea of *Habitat Evolutif* can be already seen in the theory of Le Corbusier, but it was ATBAT’s original contribution to give a theoretical framework in it based on their international and regional exchange activities.

Keywords

Morocco, Algeria, C.S.T.B., M.R.U., Charte de l’Habitat, Gyoji Banshoya

1. Introduction

1.1 Research background

Following the previous report “Part 1,”²⁹ I present the *Atelier des Bâisseurs* (ATBAT, builders’ workshop) as an international exchange organization, and consider its historical background. In general, it has been indicated that the modernism in architecture as proposed by Le Corbusier was inherited by several successors; however, the deterioration of individual plans was inevitable, and mass construction of inorganic houses was performed in suburbs around the world, including Paris. Even if this was valid, it is true that the changes in the postwar international society changed their work environment,

especially pertaining to the variations in the opinions and responses of the successors of various. So it is easy to say that Le Corbusier is behind the scenes, and that there is not sufficient past research.

1.2 Research purpose

In this paper, I follow the structure of the previous article, and focus on four main members: Vladimir Bodiansky, Georges Candilis, Gérard Hanning, and Gyoji Banshoya. The aim was to historically place the international exchange activities of the ATBAT after its organizational restructuring. The period under consideration includes the time until a manifest was issued at the 9th *Congrès Internationaux d’Architecture Moderne*

(CIAM) based on the practices in Morocco, following which the members separated and moved in different directions.

1.3 Research method

I take over the method and materials of the previous article and use the historical method based on various documents. In addition, in this paper, I perform certain planning analyses and examine the process in which the “housing for the greatest number” movement, which originated in Morocco, resulted in the “*évolutif* (evolutionary)” concept and was materialized as a planning theory through further interaction. There are several previous studies on French modern architecture and various approaches pertaining to the CIAM were previously discussed. However, the uniqueness of this study is that it focuses on specific members of the ATBAT and considers the content of their exchanges.

In this paper, after confirming the process of Hanning becoming independent after a feud with Le Corbusier (Chapter 2), I clarify the practices that the new ATBAT followed in the suburbs of Morocco, centered on Candilis (Chapter 3) and show the circumstances when Banshoya became a member (Chapter 4). In addition, from the planning analysis of the article “housing for the greatest number,” which was the concrete result of a joint research (Chapter 5) and the summary until the primary members separated (Chapter 6), I clarify the transformation of the new ATBAT and the positioning of the ATBAT experience for members.

2. Establishment of the City Planner Gérald Hanning

2.1 Reconstruction planning work of Mainz in collaboration with Lods

The city planning of *Saint-Dié-des-Vosges* and *La Rochelle La Paris* that Hanning oversaw, under the supervision of Le Corbusier, suffered from several setbacks. Hanning, who did not participate in the *Unité d'habitation* of Marseille, participated in the city planning of Mainz in Rhineland, Germany—in which Lods was the main figure since the end of 1946—where he worked under the framework of the *Ministère de la Reconstruction et de l'Urbanisme* (M.R.U.), with a French military rank. Approximately 80% of the urban area of Mainz was destroyed owing to the bombings, leaving only the old city of the Middle Ages. Thus, a plan for the reconstruction of the city due to war damages was being considered under the French occupation.

In his autobiography, Lods says, “I was accompanied by Gérald Hanning, who was keen to work with me (*Tenir à travailler avec moi, Gérald Hanning m'accompagnait*),” so Hanning came to work for Lods on his own volition. As Lods was a lifelong friend of Le Corbusier and was also becoming his supporter at the time of the dissolution of the CIAM [Note 1], it can be speculated that he probably accepted Hanning after understanding his situation from Le Corbusier.

The work resume of Hanning only stated that he worked in the “coordination” of a reconstruction plan. In contrast, the autobiography of Lods has the following recollections. It is said that Lods was not satisfied unless he gathered information from the perspective of the overall plan, such as observing the ruined city from the air with a small plane, and provided detailed explanations to the staff. On one occasion, Hanning interrupted a conversation saying “No, boss. Now that you have finished your explanation, the plan is as good as it can be. We only have to draw what you have just explained.” Upon hearing this, Lods “realized that a simple solution was

important, and as Hanning said, it was only necessary to put it on drawing.”²⁴ Hanning, who was not energetic during his trip to the United States of America, escaped the paternal pressure of Le Corbusier and regained the will to accomplish his ideas under a new boss. It can be said that the draftsman was being transformed into a coordinator for implementation.

A report co-authored by Hanning and Lods conveys the work content. The illustrations posted in this report under the name of Hanning were not architectural blueprints or precise urban plans, but sketches showing the contrast between problems and solutions in the existing urban space from the perspective of cooperation between the region, tourism, traffic, and pedestrians. Similar to the previous style of Hanning, the sketches are clear and favorable thanks to using of crayons (Figure 1). Uyttenhove points out that the idea of the CIAM is expressed here [Note 2].

2.2 Expansion of operations in French Africa

Although the proposed plan was approved by the city of Mainz, the governor-general rejected it without understanding the city plan.²⁴ Thus, once again, the work allocated to Hanning ended without implementation. However, Lods liked Hanning and invited him to work in Guinea and Cote d'Ivoire in French West Africa. The work resume of Hanning states that he was involved in the planning of hospitals and schools in Guinea and conducted research on housing in Cote d'Ivoire.

Thereafter, he continued his work in Africa; in 1949, he was transferred to Reunion (which is still a French overseas department) near his home country, Madagascar, as an expert of M.R.U. By the end of the 1940s, the administrative organizations and infrastructure had rapidly developed in Reunion, and the architect Jean Bossu (1912–1983) had worked on several public facility plans, such as schools [Note 3]. At the request of Le Corbusier in 1938 before the war, Bossu visited Ghardaïa in the valley of M'zab in Algeria; moreover, he was the architect responsible for sketching the village focusing on minarets [Note 4]. Meanwhile, Hanning was appointed as a city planner and technical consultant, and reported directly to the Governor of Reunion, as per the directives of M.R.U. He was engaged in city planning research in Saint-Denis. A report pertaining to the zoning plan of the port still exists. Further, in the monograph written by Bossu, the name of Hanning often appears as a collaborator for several works in Reunion and as



Figure 1. Sketch for Mayence by G. Hanning from M. Lods et G. Hanning, [vers 1948] Plan de reconstruction et unité d'habitation Wallstrasse, Mayence

a city planner (*Urbaniste*) [Note 5]. It is believed that the work performed by Boss was government-related facility construction, and the role of Hanning as a city planner was to coordinate the architectural works, such as preparation of sites and infrastructure planning.

Thus, Hanning worked as a city planner until he rejoined the ATBAT in 1950. The work of the city planner at that time was to formulate the basic city and district plans. However, it is believed that the leading architect Bossu sketched the blueprints for the projects and Hanning performed more of a “coordinating” role in adapting these blueprints to various conditions.

3. Development of the New ATBAT Based on “Housing for the Greatest Number”

3.1 Launching of the ATBAT-Africa and ATBAT-France structure

The new ATBAT commenced its operations in August 1949 when the office was moved from Sèvres to Saint-Augustin and the leader was changed (refer to previous report). For a while, the new ATBAT was run solely by Bodiansky and Lefevre; however, in 1951, it underwent further transformation. First, the ATBAT-Africa (ATBAT-Afrique) branch office was set up, which targeted operations in the protectorates and colonies of that period, especially in Morocco and Algeria. The office was initially located in the international administrative port of Tangier in Morocco and was later moved to the commercial city of Casablanca. In contrast, the ATBAT headquarter in Paris was referred to as ATBAT-France. Thus, the ATBAT was reorganized into two branches located in France and Africa.

Bodiansky tried to gather young members of the ATBAT who were searching a place for activities after *Unité d'Habitation* project in Marseille. Initially, he attracted the attention of Candilis. Candilis specifies in his autobiography that he was looking for a new direction when the *Unité d'Habitation* project was nearing completion. He says, “I felt that the end of this construction would bring a change, a new direction for me. I had to turn pages and make a big decision.”¹¹ In addition, the office of Le Corbusier imposed a strict full-time work obligation; consequently, one day, when Candilis happened to accept a design request from an outsider in Marseille, he was reprimanded by Le Corbusier, who said “Candilis. Do not forget. You are here to work only for me.”¹¹ He received a proposal from Bodiansky—who knew about his background and personality through the scene in Marseille—to become the branch manager of ATBAT-Africa to lead the work in Morocco.

Candilis was also honored to be invited by Bodiansky, who was in control of the on-site technology in Marseille. “I’m no longer Le Corbusier’s ‘négre’ (here, he meant apprentice or servant), but the chief of ATBAT-Afrique filial.”¹¹ In May 1951, Le Corbusier advised him to stay with him (FLC: E1-12-15), but he never received this communication. Thus, Candilis left the office of Le Corbusier and officially joined to the ATBAT; Shadrach Woods (1923–1973) also followed Candilis.

3.2 United Nations lobbying activities of Bodiansky

In contrast, it is said that Bodiansky was involved in theoretical research while frequently traveled between France and the African countries such as Morocco [Note 7]. Further, he frequently exchanged letters with Le Corbusier and André Wogenscky, the new chief of atelier (*chef d'atelier*) and it can

be observed that he continued to work for Le Corbusier and undertake CIAM-related work even after their separation.

In 1951, when the Building Research Organization Committee (BROC) was created as a United Nations-related organization, Bodiansky was appointed as an external member. BROC was established to obtain international cooperation for construction-related organizations (public or private). In 1953, two years after its formation, it was reorganized into the *Conseil International du Bâtiment* (International Council for Building; CIB), which continues to exist today. As mentioned in the previous report, *Centre Scientifique et Technique du Bâtiment* (Scientific and Technical Center for Building; CSTB) founded in 1947 was a group member who represented France in BROC/CIB; moreover, Bodiansky was involved in its formation. Bodiansky proposed to BROC to create a research center for analyzing the “housing for the greatest number” in Morocco, which was adopted, and the UN Technical Cooperation Committee assigned him with the responsibility of managing it. This was regarded as an international cooperation for Morocco based on the investment quota of the French government in the United Nations; further, and Bodiansky led the ATBAT and involved it in this project. However, the creation of the center as a United Nations organization was postponed owing to a deterioration in the political scenario in subsequent years.³⁵

In 1952, Bodiansky was appointed as the Vice-Chairman of the CIAM Industrialization Committee and was involved in the planning of the 9th CIAM Congress, which was scheduled for the following year. Thus, the ATBAT became the primary body for promoting international exchange of architecture through the United Nations and CIAM under Bodiansky. My research also includes the activities of Hanning, who rejoined in 1950, as described below.

3.3 Advocacy of “housing for the greatest number” in Morocco

In 1951, ATBAT-Africa was based in Morocco, and at that time, Michel Écochard, who had been transferred from the mandated territory of Syria-Lebanon in 1946, was the Director of Urban Planning for the protectorate government. Écochard was a person close to ATBAT, who had accompanied Le Corbusier in his travels for the research conducted in the United States of America. In Morocco at that time, the formation of *bidonvilles* (a type of slum formed by squatting in vacant spaces) by remote village farmers was an urgent issue, and the city policy was advised by Écochard to consider “urban planning and construction for the greatest number (*Urbanisme et Construction pour le plus grand nombre*)” as a countermeasure.

The key point of the policy was to develop a suburb called “*Nouvelle Medina*” (meaning “new old town”) in the Basic City Plan (*Plan Directeur*) and create a residential area for accommodating *bidonville* residents by applying a regional plan in consideration of the Moroccan lifestyle and constructing a large number of mass-produced low-priced housing. The plan of a one-storied courtyard residential area as devised by Écochard was the standardized space structure of a traditional courtyard house, which is said to be rooted in the Islamic custom of separating public and private spaces, and was commonly called “8 × 8” houses because of the size of one house (in meters).²⁶

Écochard provided ATBAT—which was led by Bodiansky, who was then an outside member of BROC—with a wide range of activity areas in the suburbs of Casablanca. In response to this, the planning theory advocated by Bodiansky

and others was the “*habitat pour le plus grand nombre* (housing for the greatest number).”

Subsequently, the term “housing for the greatest number” became a frequently used keyword for each ATBAT member later. As far as we know, this term was used for the first time in a lecture delivered by Écochard at the unveiling ceremony of the French Institute of Architecture and Public Works in Morocco [Note 11], which was held at the Chamber of Commerce in Casablanca on February 10, 1950. Thereafter, it was mentioned in a magazine article with the same title with abundant statistics and illustrations. The phrase “greatest number” is considered to imply “the masses” or “poor people”; however, Candilis also spoke about being strongly influenced by the idea of “for the greatest number” that Écochard described.¹¹

Morocco was almost the first country for the ATBAT-Africa, however, the studies on historical spaces had already been conducted by Albert Laprade and others since the early days of the protectorate. The members revamped the survey method by incorporating the demands of the times when they were facing the expansion of *bidonvilles* into the flow of the modern architectural movement that they had cultivated until then. It was promoted as the “housing for the greatest number.”

3.4 Formation of planning theory based on the practices of Candilis

Throughout his autobiography,¹¹ Candilis wrote that his experience in Morocco was important for the formation of his planning theory, and that he remembered the experiences on countless occasions after moving to France.

For example, he pointed out that there was an aspect of racial segregation in the original colonial city plan, which was divided into old town, new town, and the suburbs. On the Maarif street, a popular area in Casablanca, where he originally lived, standardized housing units were occupied by Westerners, such as people from France, Spain, and Italy, as well as Moroccan Muslims and Jews. The residents had almost the same standards of living, with normal interactions among them; however, Candilis witnessed that although everything looked identical on the outside, as these were standard houses, the houses were different on the inside owing to their cultural differences.¹¹ Thus, by gathering and forming districts, the standard houses that were completed by individual residents embodied diversity and multicultural coexistence, in contrast to the colonial city planning. Candilis was impressed with the “8 × 8” houses of Écochard, which popularized such standard housing projects in Morocco.

However, Candilis, who had a strong motivation to be an “architect,” was trying to overcome the weakness of the “8 × 8,” which had only a small space because it was a medium-rise one-story building. An article in *L'Architecture d'Aujourd'hui* (modern architecture) magazine (hereafter, abbreviated as A.A. magazine) published in February 1953 reported on the medium-rise housing that was planned and built by ATBAT-Africa. The main architects were Candilis and Woods, and Bodiansky was mentioned as the research leader. Based on the duplex-type housing for Europeans, variations such as non-duplex type for young people and simplified versions for southern Morocco were introduced. For the ATBAT members, it also meant the development of the *Unité d'habitation* in Marseille.⁶

Among these variations, a “modern *Kasbah*” was realized in the suburb of the city of Casablanca, the *Carrière Central*. While it has been argued that Moroccans do not like medium-

rise housing, Écochard agreed with the proposal of Candilis to “convert the courtyard into a balcony,” which was accomplished in 1954.¹¹ *Kasbah* is an Arabic word that generally means citadel, but in Morocco it conventionally means a medium-rise house that has been built indigenously in an oasis settlement. Candilis stated that the “modern *Kasbah*” is a suitable design in the suburbs as many *bidonville* residents were from the oasis regions. They got the nickname “*Nid d'Abeilles* (Honeycomb)” from the three-dimensional facade with balconies.

The “*Nid d'Abeilles*” caused a sensation in the architectural world and was widely published in magazines, and in December 1954, color illustrations were published on the cover of A.A. magazine No. 57 (Figure 2). White was the predominant color, while the balconies were painted in primary colors, such as red, blue, yellow, and green; these are almost the same colors as that of *Unité d'Habitation* in Marseille. When the issue was published, Candilis had already left ATBAT, but in the years to come, the “honeycomb” design would become highly acclaimed thus making Candilis famous.

However, Morocco at that time was under a period of political unrest ahead of its independence, and the *bidonville* became the hideout of pro-independent terrorists. Then, the question arose of how the *bidonville* residents would consider

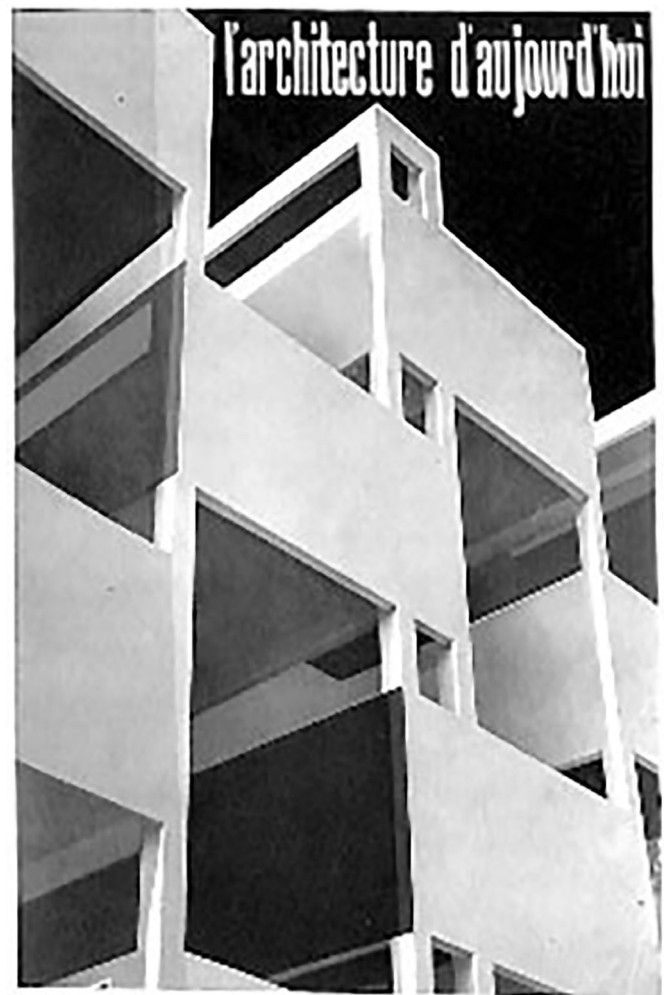


Figure 2. Nid d'Abeilles appeared in the cover of A.A. magazine

the flashy *Nid d'Abeilles* that was suddenly being built in its center. Indeed, at one point in 1953, during the construction, Candilis was contacted by a terrorist through a Moroccan worker on site and was led to a hideout in the back alley of *bidonville*. There, he had the following interaction with a person who seemed to be a pro-independence leader [Note 12].

- Independentist: Mr. Candilis, Why are you building houses here that are different from the others?
- Candilis: We are looking for a solution that is compatible with both the Moroccan lifestyle and current economic conditions. The solution is different from other architectures.
- Independentist: Why don't you build French-style houses for us, the same as the houses for Europeans?
- Candilis: Because not everyone has the same lifestyle as the French. I'm seeking your identity.
- Independentist: That's it. That's neo-colonialism, the most dangerous French patriarchalism.

While radical independentists ironically wanted French-style houses, Candilis, as a French architect, sought Moroccan-style houses. Both claims that traced parallel lines—but considering that in the later years the former would be recovered by modernism in the sense of not doubting the universality of modernity and the latter would be recovered by orientalism as an exotic hobby—were authentic to that period.

Furthermore, around the same time, Candilis was invited to a design competition at the Tishreen University Campus in Latakia, a city on the eastern Mediterranean coast, sponsored by the Syrian government. Here, he proposed a campus plan that depicted a lively Arab *souk* (market) under the theme of “Islamic identity.” However, he lost the competition to a German architect owing to the desire of the Syrian organizers, who expressed that “a modern European campus is preferred” [Note 13]. At this time, he recalled Le Corbusier’s “Mesopotamia Incident” (see previous report), which was said to be an event that led to an incident with Moroccan independentists.

As far as we can judge from his autobiography, when Candilis was in Morocco, he was influenced by the ideas of Écochard, and eventually by those of Le Corbusier, where the standardized structure at the center of the building frame would be completed independently by residents. However, it appears that he was also attracted to the idea of a more completed housing that faithfully reflects the regional characteristics of the *Kasbah* or *souks*. Both types of housing are identical in the fact that they try to identify cultural differences in the background of their homes and ways of living; however, there is an inevitable time lag between building the frame and the completed housing by residents. The question of how to handle the time lag gradually gained importance and clarity through the “housing for the greatest number” project.

3.5 Ninth CIAM Congress and “housing for the greatest number”

In July 1953, the 9th CIAM Congress was held in Aix-en-Provence, Southern France. Various groups addressed the housing challenges around the world, including in North Africa, and finally the “*Charte de l'Habitat*” was adopted. Numerous previous studies pertaining to this Congress have been published in the past. In particular, the achievements of the “housing for the greatest number” in Morocco were announced extensively by the members of ATBAT-Africa. It is well known that Peter and Alison Smithson from the United Kingdom were inspired by this and wrote a critical article on the “modern *Kasbah*”⁵ and prepared for the rise of a new generation centered on Candilis and

the formation of Team 10.¹³ In addition, CIAM-Algiers—composed of architects closely related to Le Corbusier, who had been active in Algiers since the pre-war period—also reported the results of the complete survey on the *bidonville* of Mahieddine located in the suburbs of Algiers, as Çerik has provided details of this content.¹²

However, on the other hand, it is possible to analyze the theme of the housing and planning theory on which this event was based from the content of the keynote speeches presented by the executive committee members of the competition, such as Écochard and Bodiansky [Note 15].

First, the lecture of Bodiansky, “for the *Charte de l'Habitat*,” which is positioned as a keynote speech, was based on the subject of delving into the “housing for the greatest number” project. At the beginning, the definition was “for the greatest number (*pour le plus grand nombre*),” which indicate that it was intended for the individuals or people (with regard to society). Moreover, “*habitat*” mean “housing” or “dwelling” in English. Particularly, it is an important explanation that “*habitat*” is a concept that integrates both hard and soft aspects. In addition, “the same applies to slums in developing countries and multiple dwelling houses in Europe in that each individual completes their own house”; thus, in conclusion, “*habitat*” is fundamental to human welfare and the evolution of human spirit (*l'évolution spirituelle*). Consequently, Bodiansky says that continuous improvement is the significance of the work of the builder (*Bâisseurs*). It is also argued that the goal of the builder is to fill in the time lag between building the frame and completing the housing, that is, to support the “evolution of spirit.” However, it is difficult to clearly define what “evolution of spirit” actually means.

If one observes the short lecture record of Écochard that followed, there are six policies under the title “Housing for the greatest number—positioning issues related to the *Charte de l'Habitat*” that should be adopted in “housing for the greatest number.” They can be enumerated as follows: (i) responding to the degree of human evolution (*degré de évolution de l'Homme*) and climatic change, (ii) addressing the *bidonville* problem, (iii) not considering city planning in a narrow sense as the only solution, (iv) preparing minimum standard housing for more people, (v) responding flexibly to political, economic, and social situations, and (vi) understanding that “*habitat*” and city planning are inseparable; city planning creates a solid medium to long-term perspective, and evolutionary measures (*les solutions évolutives*) are important for the “*habitat*.” It is obvious that the “degree of human evolution” referred to in “(i)” does not imply that there is a difference in the degree of intelligence between the inhabitants of advanced countries and underdeveloped countries. It is well known that Écochard always respected local cultures in Syria, Lebanon, and Morocco. Here, this may either mean the evolution of humanity in a more universal sense, or the evolution of each individual during their life cycle from childhood to middle age to old age. Considering the context of Bodiansky, it is apparent that he meant the latter case. In addition, they defined the city planning as an outline, and on the other hand, for “*habitat*,” they said it is important to incorporate the “evolutionary type” measures in advance in each individual “*habitat*” in order to fill the time lag between building the frame and completing the housing.

At the 9th CIAM Congress, which has been known for various exhibitions and discussions, the ATBAT members presented the housing and planning theories pertaining to the “housing for the greatest number” concept in the keynote

speeches. It was said that the essence was the evolution from the building frame to the completed housing according to the lifestyle of the individual. Candilis was in charge of the congress report, a special feature of A.A. magazine, where Gyoji Banshoya of Japan was introduced.

3.6 Reassembling to ATBAT-France and "housing for the greatest number"

In 1950, ahead of the CIAM congress, Hanning, who had finished his work at Reunion, rejoined the ATBAT. According to his work resume, he belonged to the ATBAT "of Bodiansky" in Paris as a city planner until 1953 and was engaged in the research on "housing for the greatest number." At the same time, he continued to perform the work of M.R.U., and conducted a preliminary survey of a regional development project centered on Roussillon in the Languedoc region of southern France, which belonged to the National Land Planning Bureau. However, Hanning was not directly involved in the core work of ATBAT-Africa, such as that performed in Morocco, and there is no evidence that he participated in the 9th CIAM Congress, which was the venue for the announcement of the result.

Let us consider the question of what exactly was the "housing for the greatest number" that Hanning studied. First, it is not hard to imagine that the work of M.R.U. in France must have dealt with the housing issue from this perspective. Second, the district housing plan of Reunion was listed as the "housing for the greatest number (*Logement pour le plus grand nombre*)" in his work resume. The outline of the spatial structure observed in the plan indicates that the irregular district streets are diverging from the arterial way, but all of them are dead-end streets, and the houses are belonging in a cluster of dead-end streets (Figure 3). Each house is connected to each other, there are multiple courtyards on the street side of the area, and the area outside is generally closed. The arterial ways and houses are blocked by green spaces, and facilities are concentrated near the entrance of the district. The aim is to maintain a living environment based on the separation of pedestrians and vehicles, which can be said to be relevant to the CIAM.

Hanning, who rejoined the ATBAT, summarized the ongoing work in France and his own work, including that at Reunion, which can be considered as the background for the concept of "for the greatest number." In this way, Hanning

was conducting research independently by performing the city planning and district planning as a coordinator in the newly reborn ATBAT for the "housing for the greatest number." As a result, Hanning was awarded the "role of coordinator of the most sensitive landscape plan I have ever seen" by the architect Fernand Pouillon, who he met in 1954 [Note 18].

However, in the midst of the increased political unrest due to the Moroccan independence movement, following the success of the CIAM Congress, Bodiansky moved the location of ATBAT-Africa from Casablanca to Algiers, the capital of the colonial Algeria. Since then, ATBAT-Africa carried out the projects of housing complexes in Oran, Mostaganem, Sidi Bel Abbès, etc. from 1954 to 1955.¹⁴ However, these works were not always widely reported, compared to their works in Morocco. One of the reasons may be that members who were adept in handling the media, such as Candilis, had been recalled to France. At this time, Candilis had perceived that Europe, including France, was in the first recovery period and in the age of mass construction. In France, where there was a serious shortage of housing, developing the experience of "housing for the greatest number" project in Morocco was necessary and he opted to steer ATBAT-France on this path.¹¹ Thus, ATBAT-France was able to reunite Candilis and his comrades as well as Hanning under the guidance of Bodiansky.

4. Participation of Gyoji Banshoya (1930–1998)

4.1 Background of moving to France and participating in the ATBAT

While studying under Kiyoshi Seike at the Tokyo Institute of Technology, Gyoji Banshoya, who was studying French and the state of French architecture at the Tokyo Institute of Japanese and French Studies, moved to France as a French government scholarship student in October 1953. This was after completing his graduation design work on the "square house" in the spring of the same year, that realized as his brother's house in Mejiro. The theme of the "square house" dealt with how to continue living in a small house for a long time during the post-war housing shortage. While inheriting the style of Kiyoshi Seike, Banshoya also adopted his unique "umbrella structure," which was considered to be an excellent design and was reviewed in the "New Architecture (*Shin-Kenchiku*)" magazine as well as in the A.A. magazine. Le Corbusier evaluated the portfolio that Banshoya sent to Paris when he was selected as a scholarship student. Similar to many international students of architecture at the time, he was studying abroad for the purpose of training instead of obtaining a degree.²⁷

According to the work resume of Banshoya, he was a trainee (*stage*) at ATBAT located at 10 Saint-Augustin street in Paris from October 1953 to July 1954. This was the address of the new ATBAT. It is said that he studied under Bodiansky, Hanning, and Candilis, and his research theme was "*habitat pour (le) plus grand nombre* (housing for the greatest number) in the Paris region and Madagascar."

When trying to demonstrate this using French material, there is a publication detailing the member list of ATBAT written by Marion Tournon-Branly. The list is in alphabetical order, and there are 67 names that include architects, engineers, city planners, founders, and principal collaborators, who were enrolled from the early years until 1963. Different people may have had different ways of getting involved depending on the period, and many young foreign architects, including students, were enrolled.³⁵

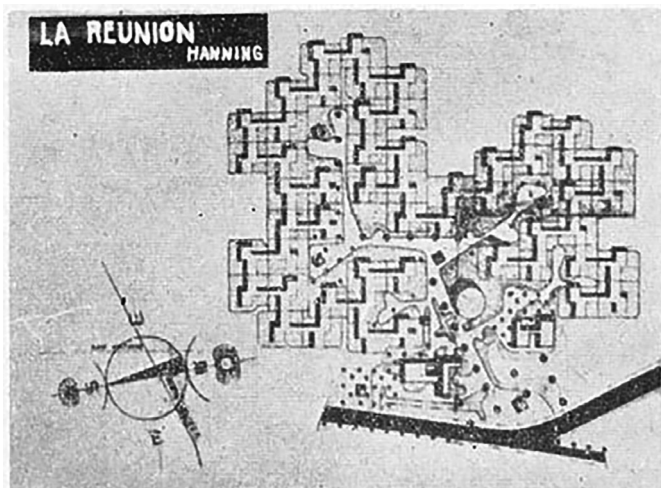


Figure 3. Housing district plan for La Reunion by G. Hanning (1950)

While considering the fact that a certain “Gyoji Banchoya” was included in the list, it can be assumed that Ban“cho”ya may be a simple misprint or typographical error for Ban“sho”ya; therefore, there is no doubt that this refers to Banshoya. The tenure of work on his work resume indicates a period less than one year; however, since then, he worked with several ATBAT personnel in other places such as Algeria and Cambodia. Thus, similar to other members, it can be assumed that Banshoya continued in the position as a collaborator.

4.2 Candilis, the first mentor

Photographs were captured at ATBAT in Paris during this period (Figure 4). On the right side of the two female staff members is Alexis Josic (1921–2011), who later became a member of “Team Candilis,” and on the left is Candilis, with Banshoya next to him. On the background wall, a panel of the aforementioned “honeycomb” is posted. Thus, this photo shows the relationship Banshoya shared with Candilis in the ATBAT.

According to the recollections of Banshoya of later years, “My article published in *New Architecture* caught an attention of the editors of *A.A. magazine* and I traveled abroad in September 1953 to bring a collection of my works to the editor-in-chief, André Bloch; these were published in the October issue. Then, Bloch introduced me to Candilis and I entered ATBAT.” Furthermore, he described that “in the office of Le Corbusier, there was no salary for the first year, but Candilis offered me CHF 25 000, and I was able to learn new things.”²

Here, when checking the chronological records of representative Japanese architects who trained themselves directly under Le Corbusier, we identified that Kunio Maekawa, Junzo Sakakura, Takamasa Yoshizaka stayed at Le Corbusier’s office from 1928 to 1930, 1931 to 1936, and 1950 to 1952, respectively. According to Hiroshi Sasaki, after this period, there was only one newcomer at the office of Le Corbusier in 1954 (without considering the nationality), and none from 1955 to 1958. After Banshoya, Ren Suzuki went to France in 1955, and was invited by Le Corbusier to go to the office of Candilis [Note 19]. After Yoshisaka, who trained under Le Corbusier until the inauguration ceremony of *Unité d’Habitation* in Marseille, the trainings of young architects were performed by younger substitutes, such as Candilis; Le Corbusier did not

supervise any disciples for a certain amount of time owing to preparations for visiting Japan to design the National Museum of Western Art (1954–1958). Banshoya received a letter from Le Corbusier in September 1958 at his house in *Diar el Mahçoul* in Algiers specifying that the design work of the National Museum of Western Art was successfully completed and was under construction at the time when the letter was written (FLC: F1-13-80). It can be observed that Banshoya played the role of a liaison between Le Corbusier and Japan.

Banshoya conducted trainings at the ATBAT because Candilis was at the center of this organization at that time. Of the three mentors, the first opportunity to enter ATBAT came through Candilis.

4.3 The “Square house” as an evolutionary type design

Banshoya was featured in the October 1953 issue of the *A.A. magazine* as a working theory. It was because Candilis, who was in charge of reporting the CIAM Congress, evaluated the “square house.” It was not just merely posted as one of the featured works. In the explanation of his intention at the beginning of the special feature, he also introduced a sketch illustrating his interpretation of the “square house” (Figure 5). The sketch captured the main concept of the “square house,” which indicates a change in the partitions as the life cycle progresses and depicts a process that evolves from the left to the right. In addition, the following short explanation was attached; “the functions of gathering and sleeping can be divided by a simple threshold. The architect builds only the outer shell (building frame), and for the rest, the resident becomes the architect himself, deciding according to his needs and customs” [Note 20].

The intention of Candilis was clear. Originally, the “square house” was composed of from the “floor plan” and “completed floor plan”; in order to show the “evolution” process that fills the time gap between constructing the building frame and the completing the housing. Candilis positioned the “square house” as an example of the “evolutionary type” of concept that he pursued; moreover, he linked it to his activities in Morocco, which was based on the “housing for the greatest number.” In this way, Banshoya was not merely accepted as a trainee, but was probably welcomed by the ATBAT, far beyond his own expectations.

The training at the ATBAT was “being conducted for one year for the design of low-cost housing in the suburbs of Paris and Morocco,”² and it matches the content of his work resume for the suburbs of Paris. Further, low-cost housing in Morocco is probably related to the works of Candilis and others, including the “honeycomb” that was under construction at the time. Conversely, while considering the “housing for the greatest number” project in “Madagascar” appears in his work resume, it can be inferred that the suggestion came from Hanning, who was originally from that area, but the specific details of the

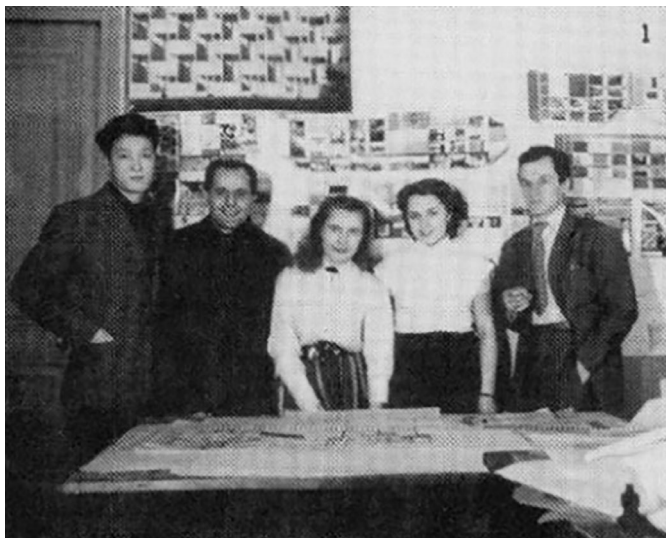


Figure 4. Banshoya in the ATBAT office (Photo from Chaljub.B (2010))



Figure 5. Sketches by Candilis showing the process of “evolution” from the left to the right

training beyond that are unknown. Banshoya went to Algiers in July 1954 because of Hanning and it is assumed that the incentive received from Hanning during his time at the ATBAT was also substantial.

5. Concept of “Evolutionary Type” in “Housing for the Greatest Number”

5.1 Article entitled “*Habitat pour le plus grand nombre*”

The first and last joint achievements of the ATBAT in the golden age that expanded in this way, was the article just entitled “*Habitat pour le plus grand nombre* (housing for the greatest number),” which was published in the journal “*Techniques et Architecture* (Techniques and Architecture)” in November 1954.⁸ Although the specific target area was not clearly indicated, this was an article that targeted the housing problem in France, rather than North Africa. However, at the time of publication, Candilis, Hanning, and Banshoya had all left the ATBAT.

The joint research was carried out by the ATBAT after being adopted by the CSTB research grant program. Bodiansky and Candilis were credited as the main authors of the article, and a total of 12 people are listed as the ATBAT members (*Membre de l'Equipe ATBAT ayant participé à l'étude*) who were co-researchers, including Banshoya, as well as Woods and Josic who were the main members of Team Candilis. Henri Piot, who also collaborated with the housing complex project of Bobigny in a later project related to *Opération Million* project, and Juan Gunther (1927–2012) from Lima, Peru, who was also a French government scholarship trainee and would travel to Algiers along with Hanning and Banshoya (Figure 6) are also included in the list [Note 21]. The role of each participant is not specified.

This eight-page article consisted of an introduction by André Marini, Chairman of CSTB [Note 22], an explanation of the aim by Bodiansky, and the primary article by Candilis as a theoretical researcher. In the introduction, Marini talks about the international exchange lead by Bodiansky. He mentions

that the first result of the joint research “housing for the greatest number” was obtained based on their criteria, and that it was important in terms of application to the urgent issue of housing in France. Additionally, it is stated that CSTB supported the research as a fusion of the interests of architects, city planners, and engineers.

Bodiansky was a person who contributed to the creation of CSTB, an organization under the M.R.U., which was responsible for the approval of new technologies. As a representative of the ATBAT, he explained the purpose of this joint research in his remark, but the content is a summary of his lecture “*Charte de l'Habitat*” appeared in the proceedings of the CIAM Congress in the previous year. His opinion has consistently been that it is the residence that should be considered from the evolution of a healthy body and spirit, and that the mission of the builder is to support this.

According to main article by Candilis, he continued to conduct research on “housing for the greatest number” concept for several years after being in Morocco, and he considered it to be important for offering a unique solution to the region by using ordinary, conventional techniques. It can be said that in this article, there are features of “evolutionary type,” such as partitions that can be adjusted by the residents themselves and the possibility that the residents themselves can become “architects” (Table 1).

Moreover Candilis suggests a planning theory based on the concept of 7.5 m × 9 m single-story houses composed by the elements such as the bedrooms (for adults and children), the living room, and the water section, which in turn forms an apartment by succession of the houses. These elements have a common dimension of 3 to 2.25 m × 9 m in width, and consist of three to four units in the vertical direction. It can be said that he was assuming a housing plan in the suburb of France with a relatively large space, because of the characteristics of the one-story apartment houses.

5.2 Relevance to the “square house”

At the beginning of the main article, attention was directed to the floor planning as shown in Figures 7 and 8. The dimensions of 7.5 m × 9 m indicate a rectangular area with a marginally greater width, although the interior demonstrated a strong similarity with the “square house” of Banshoya. That is, the arrangement of the kitchen and bath/toilet in the upper part of the east side in the “clover series” and the existence of the partition in the lower center are almost the same as that of the “square house.” The difference is that in the former, the entrance is installed facing the terraces on both the eastern and western sides, while in the latter, a Japanese-style entrance is installed at the upper-right side.

Furthermore, while considering the relationship between the two figures, Figure 7 is a more basic esquisse and no furniture is drawn except the movable partition that divides the center vertically and the fixed wall that divides it horizontally. Conversely, Figure 8 is based on this, but the lateral wall is marginally modified; further, by including the furniture arrangement, the use and size of each part are shown more rigidly, and the space is subdivided. Specifically, two rooms are drawn, a dining/living room, a bedroom each for the couple and the children. That is, Figure 7 shows the structure or skeleton, and Figure 8 shows an example of in-fills incorporated by the residents.

It can be said that the presentation of this set of building frames and usage examples is a characteristic expression common to the “evolutionary type,” which was observed when

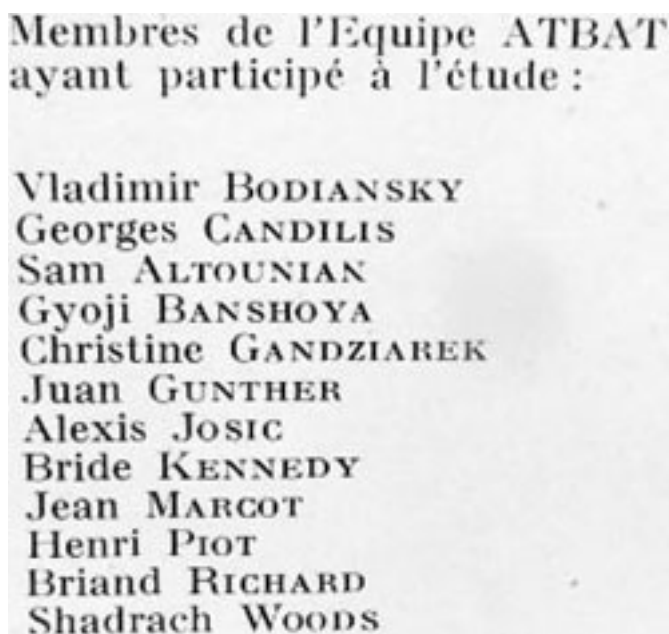


Figure 6. Members of the ATBAT (Banshoya is the fourth member)

Table 1. 1 Main article by Candilis (original and English translation) under line by the author

Depuis des années l'ATBAT étudie les problèmes d'habitat pour le plus grand nombre dans ses aspects et particularités. Il ne s'agit pas de solution «passe-partout», mais d'une solution pour chaque cas. Les facteurs déterminants sont multiples. Facteurs dépendant du milieu: For years, the ATBAT has been studying the problems of housing for the greatest number, in its aspects and particularities. There is no one uniform solution that can be applied everywhere, but a unique solution is required for each case. There are multiple factors. The factors that depend on the environment include:

Milieu naturel: Géographique – Climatique
 Natural environment: Geographical – Climatic
Milieu artificiel: Société, éthique – Economie – Technique
 Artificial environment: Society, Ethics – Economy – Technology

En poursuivant ses études, l'ATBAT se trouve continuellement devant des aspects multiples et quelquefois inattendus. On trouve plusieurs solutions et plusieurs variantes, mais l'esprit de recherche reste le même: esprit du plus grand nombre, avec ses lois et ses disciplines. While advancing these studies, the ATBAT is continuously facing multiple and sometimes unexpected issues. We have identified several solutions and alternatives, but the spirit of research remains unchanged. That is, the spirit of the greatest number, with its norms and its disciplines.

- Il s'agit de construire en grande série et partout;
- Construction in large quantities without choosing a location.
- Il s'agit de construire deux fois moins cher qu'à l'ordinaire;
- Construction at less than half the usual cost.
- Il s'agit de rester dans la réalité et de faire pour le mieux;
- Working to be better while staying in reality.
- Il ne s'agit pas de faire des acrobaties techniques, mais de construire avec les moyens habituels et bon marché.
- It is not a question of doing technical acrobatics, but of constructing with the usual means at low cost.

La base du problème est surtout de faire régner le bon sens entre l'écart de ce que l'on veut donner et de ce qu'on peut donner et pour cela il faut hiérarchiser facteurs suivant leur importance et leur influence sur le problème envisagé.

The basis of the problem is, above all, to balance the gap between what we want to do and what we can do. For this, we must prioritize the above factors according to their importance and their influence on the expected problems.

La série Trèfle propose des solutions pour l'habitat à rez-de-chaussée en bande. Murs porteurs perpendiculaire à la façade à une distance régulière de 3 m et de 2.2 5 m. Les façades sont des pans de remplissage de ces murs porteurs.

The Clover Series offers a solution for one-story apartment complexes. The movable walls perpendicular to the facade are placed at intervals of 3m to 2.25m. The facade consists of a wall surface to which these movable walls are connected.

1-Les logements sont composés de:

1-The housing consists of:

- a) séjour;
- a) Living room
- b) chambre des parents;
- b) bedroom of the parents
- c) chambre (s) des enfants;
- c) bedroom of the children
- d) groupe sanitaire et cuisine,
- d) Bath/toilet and kitchen (areas where water is circulated)

2-The housing is structured with a double orientation as follows

- a) séjour et cuisine vers la façade d'accès;
 - a) Living room and kitchen by the facade with entrance
 - b) les chambres à coucher vers les espaces verts de la façade opposée.
 - b) The bedrooms towards the garden of the opposite facade.
- 3-Le séjour et la chambre des parents dans le même espace, séparés par une cloison-placard, basse ou haute, mobile ou fixe suivant les besoins et les désirs de l'occupant.

3-The living room and bedroom of the parents are in the same location, but it can be divided by a storage-partition wall which can be lowered or raised, movable or fixed, depending on the needs and wishes of the resident.

4-Une chambre d'enfants, au moins, est isolée.

4-At least one of the bedrooms of the children is independent.

5-L'occupant peut devenir, dans une certaine limite, architecte chez lui.

5-Residents can, to a certain limite, be architects of their own homes.

6-La cuisine forme un ensemble avec le séjour qui devient le véritable foyer de la famille.

6-The kitchen, along with the living room, forms a unified space, which becomes the center of the house.

Table 1. (Continued)

- 7-Dans le groupement, deux bandes sont rapprochées au possible, ce qui donne une économie des viabilités et permet des espaces verts plus étendus vers les chambres à coucher.
- 7-When planning, the two units (living room/kitchen, and bedroom) are kept as close as possible, so that they can be moved efficiently, which makes it possible to have a more extensive garden towards the bedrooms.
- 8-Les surfaces correspondent aux réglementations françaises pour les logements économiques et familiaux. Le module est le lit et la disposition générale donne le maximum de profondeur et le minimum de façade.
- 8-The area (dimensions) shall be in accordance with the French legislation on economical family housing. The module is for one bed. In addition, the basic layout plan should maximize the depth and minimize the facade.

Candilis introduced the “square house,” and previously in the article by Banshoya himself published in “*Shin-Kenchiku*.” In addition, the idea that the storage space can be doubled by having a movable wall can also be observed in the “square house.” Considering the fact that Banshoya was under the guidance of Candilis, it is almost certain that Banshoya contributed an idea based on the “square house,” at least at the beginning of the “Clover Series.” However, as the influence of Kiyoshi Seike, who was the mentor of Banshoya, is recognized in the “square house,” the theory of variable low-priced housing in postwar Japan, which was created by Seike tracing back to the *Shinden-zukuri* style, should be positioned as one of the origins.

5.3 Positioning of the entire article

What is the position of the “square house” in this article? The example of house here is divided into three parts that are approximately equal, i.e., living room and bedroom of the parents ([a] + [b]), bedroom of the children ([c]), and the water section ([d]), and these are the basic units that make up a house. These indicate ideas that are not observed in the “square house.” The roof is not an umbrella structure, but a simple one-sided roof, and the differences can be observed in the openings that consider the incidents of sunlight.

In the subsequent section, the combination of the three units in multiple patterns is presented, and the process of creating a variety of apartment houses to satisfy the demands of the residents is explained with illustrations. This idea plan is named “*La série Trèfle*,” which can be translated as “Clover Series,” as the process of unit combination is similar to the leaves of a clover, consisting of a combination of three or four leaves. There are only few walls, but a storage-partition is also used. Although there are changes in the opening as well as the structure divided into three parts, some of the key ideas from the “square house” are still retained. Consequently, the prototype of Clover Series has reached the goal of the “housing for the greatest number,” which demonstrates the characteristics of the “evolutionary type” theory.

5.4 Summary

The article “*Habitat pour le plus grand nombre*” was written by considering several exchange activities of the ATBAT members and pursued to provide a model for housing facilities for the postwar reconstruction in France. One of the starting points was regarding the planning theory and technology of modern architecture, including the idea of Le Corbusier; however, the results of practical learning from the regions were

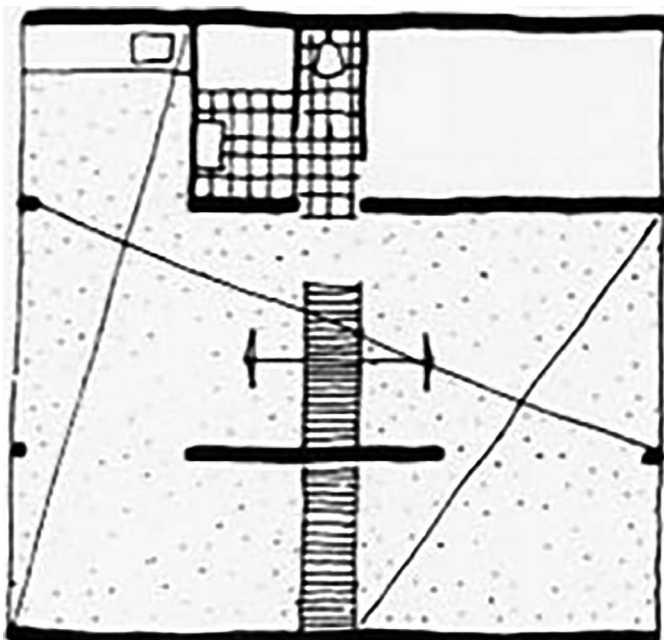


Figure 7. Skelton Plan

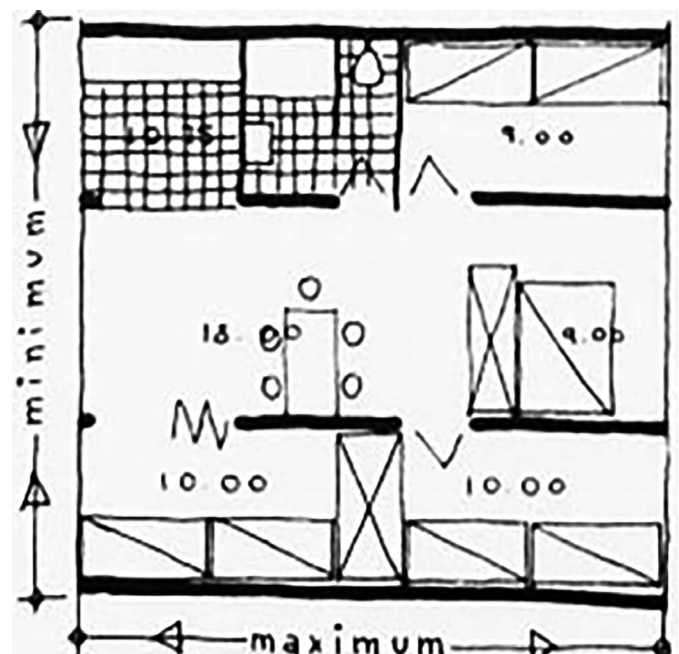


Figure 8. Plan with in-fills

reflected in the United Nations and M.R.U. or CIAM activity frameworks in various countries, especially in French-speaking African countries such as Morocco, as well as distant places, such as cities in Japan.

6. Separation of the ATBAT Members and “Evolutionary Housing”

6.1 Assignment of Hanning in Algiers

In December 1953, Hanning was invited by Pierre Dalloz of M.R.U., the founder of the Algiers city planning department under the direction of the new mayor of the capital city of Algiers in Algeria, Jacques Chevalier, to become the director of the department. Hanning considered Algeria to be a fascinating land where his mentor Le Corbusier was impressed by the oasis village of Ghardaïa and had envisioned the *Plan Obus* before the war. The following year, he wrote a letter to Le Corbusier to report his work (FLC: F2-10-57). In contrast, at ATBAT France, he was being pushed by Candilis and others who returned from Morocco. The post of being the actual person responsible for urban planning in Algiers, which is closely related to M.R.U., was apparently a desirable change for Hanning.

6.2 Forming of the team “Candilis, Josic, and Woods”

At around the same time, M.R.U. had started the “*Opération Million*” project in the midst of a severe housing problem in France. This was a project to promote the supply of apartments with a size of two or more bedrooms for one million francs (it was considered to be approximately half the construction cost at that period) or less, and was awarded to architects with a certain level of construction records, such as Bernard Zehruss and Lods [Note 23]. Meanwhile, in January 1954, following the rescue campaign of Father Abbé Pierre, called “Homes for those who do not have [Note 24]” which was initiated after witnessing multiple cases of homeless people freezing to death in the early morning, Candilis felt that his efforts to solve the Moroccan *bidonville* problem could be transformed and applied to the suburbs of Paris. Initially, Father Pierre prioritized the provision of temporary emergency housing (*cité d'urgence*), but Candilis met with the priest and convinced him that it would be more efficient to build a cost-effective housing complex. Thus, he decided to participate in “*Opération Million*” as an architect, to implement the concept of “housing for the greatest number” in France [Note 25].

However, Bodiansky opposed this idea. He said that “ATBAT’s mission was not to be architects, but to provide technology to clients who are architects, instead of competing with them.” Candilis, who was not interested in the mission of being a non-architect builder, talked to Woods, who had been with him since his tenure at Marseille, and Josic, who was a member originally from Serbia and was wondering at that time if he should move to the United States, and they officially resigned from the ATBAT [Note 26].

Subsequently, the three of them formed the team “Candilis, Josic, and Woods,” in collaboration with *Emmaüs* movement, which was founded by Father Pierre and supported by donations. They constructed apartment houses one after the other in the suburbs of Paris, including at Bobigny [Note 27]. At that time, criticism on the large-scale inorganic apartment houses in the suburbs of Paris represented by the “Sarcelles complex” was increasing, but it is said that the housing plan of the team based on “housing for the greatest number” was relatively well received [Note 28]. In 1956, they received an order as a team

for a new residential area for workers of the Marcoule Nuclear Power Plant constructed along the Rhone River in Bagnols-sur-Cèze, Gard, and they worked on large and small apartments in a new city area that was planned to be more than double the size of the old city of Bagnols-sur-Cèze [Note 29]. In this way, Candilis entered a period of prolific production as an architect immediately after he left the ATBAT. He led the formation of TEAM 10 at the 10th CIAM Congress in Dubrovnik. In 1961, he won the competition of Toulouse-le-Mirail, and solidified his name in the history of city planning.

6.3 Assignment of Banshoya in Algiers

In July 1954, Banshoya went to Algiers on being invited by Hanning to work as an assistant to the director. Gunther, who collaborated in the article “Housing for the greatest number,” also came to Algiers and was designated as an assistant as well. It is apparent that these two young people were invited by Hanning owing to their immense talent demonstrated at the ATBAT. Thereafter, Banshoya studied under Hanning who became his lifelong “teacher,” although at the beginning of their tenure at the ATBAT, they were colleagues for only a few months. Here we speculate on the reason why Banshoya left the ATBAT so easily after being highly acclaimed through publications in the *A.A.* magazine and the research on “housing for the greatest number.”

The following year after moving to Algiers, Banshoya recollected his stay in France in a magazine article explaining that “the bad influence of architectural mode magazines represented by Le Corbusier was shown to such an extent that it made me want to vomit.” He was referring to “those who think that modern architecture is having the new type of elevation and poisonous color scheme as seen in Algeria and Morocco.”¹ He did not mention any personal names; however, when considering that he narrowed down the candidates to Algeria and Morocco, which had constructions with flashy elevations and color schemes that were acclaimed in magazines, and while also considering the work that Banshoya was in contact with on a daily basis, we can conclude that he was most probably referring to the “honeycomb” of Candilis.

Contrary to the generosity of Candilis, Banshoya was appreciated as someone who “celebrates a modern taste in classical Japanese elegance”²⁷; consequently, he considered the design of Candilis to be excessive. That may be one of his reasons for leaving the ATBAT. In his autobiography, Candilis mentioned a relatively large number of personal names, and also briefly discussed Ren Suzuki (1929–2009) of Japan. However, he did not mention Banshoya, with whom he certainly had an exchange for a while.

6.4 ATBAT of Bodiansky

While the primary members left the ATBAT one after another, Bodiansky, in his later years, was appreciated as someone who “conducted projects in several foreign countries, but could not find a project that matches his talent, and had poor management.”²⁵ He collaborated with Hanning and Banshoya in Algiers and Cambodia, and continued international advocacy activities, although it is stated that the ATBAT as an office did not function for a while after the death of Lefevre in 1963.³⁵

Bodiansky believed that as the separation of responsibilities between architects (design) and engineers (structure and construction) becomes clearer, the importance of equal cooperation between the two parties would also become clear. In fact, the achievement of popularizing the approval system for new technologies through CSTB was a remarkable idea. However,

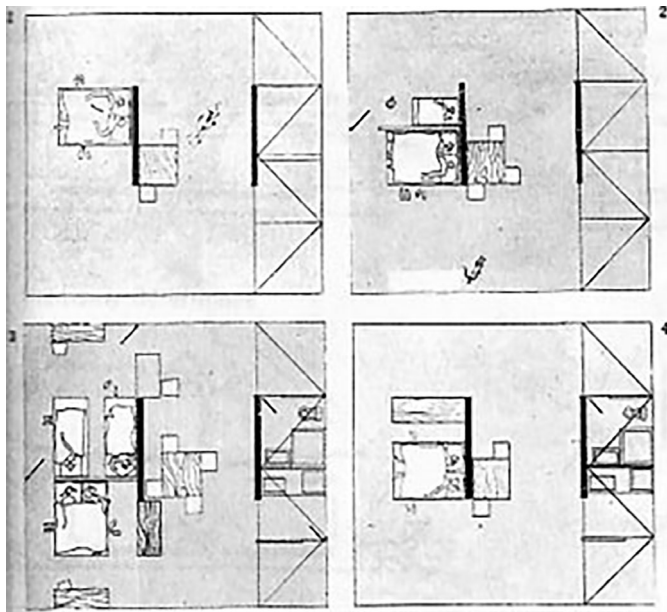


Figure 9. Plan showing the process of “evolution”

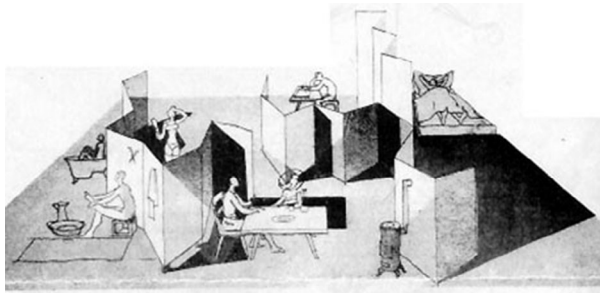


Figure 10. Room separated by partitions

the ATBAT as a commercial company, could not monopolize a new technology through a patent. It was difficult to keep pace with the explosive wave of “architecture” works during the period nearly 10 years after the war witnessed a significant increase in constructions.

6.5 Establishment of “evolutionary housing”

In 1959, about five years after his separation, Candilis published two articles titled as “Evolutionary Housing (*Habitat Evolutif*).”^{9,10} These were published in different magazines, but there were many similarities in both the texts and illustrations, which can be regarded as the representative planning theory of Candilis and others at that time.

Of the illustrations, the ones that attracted significant attention are illustrated in Figures 9 and 10. In Figure 9, the life cycle of a couple is depicted in four stages. These stages are (1) newlywed couples/family of two, (2) family of three with one child, (3) family of four with more children, and (4) family of two, after both children become independent. It can be observed that the number of partitions increased or decreased according to the changes in the family. The floor plan also resembles that of the “square house.”

Furthermore, in Figure 10, it can be conserved that in a space with almost no fixed walls, a folding partition reminiscent of the Japanese folding screen is installed. Daily activities such as bathing, changing clothes, eating, working, and sleeping can be performed in each space.

As mentioned earlier, these illustrations clearly convey the concept of “evolutionary type.” It is no wonder that there is evidence of joint research with the ATBAT members, including Banshoya, which indicates the evidence of international exchange. As Candilis taking grew in stature as an architect from the implementation of *Opération Million* to the constructions at Bagnols-sur-Cèze and Toulouse-le-Mirail, the “evolutionary housing” was established as the theoretical core. Candilis also recalled that when he visited the community hall of the Bagnols-sur-Cèze housing complex after its completion, the residents were using the spaces in a manner different from its intention at the time of design, but this was exactly what he wanted [Note 30].

Candilis was pleased with the idea of the “square house” through its introduction in an A.A. magazine article in 1953. Although he was inspired by its importance in the process of continuing his research, he never dared to mention Banshoya, who had left him, in his autobiography. It is possible that there was such a background.

7. Conclusion

The ATBAT played an important role in discovering “evolutionary housing” conducting technical research and advocating for “housing for the greatest number,” as well as conducting verification by practically implementing it widely in the French-speaking world. The “evolutionary” concept can be observed in its base archetype, which is a *unité* of Le Corbusier (residential unit). However, the pioneering contribution of the ATBAT was in examining the responses to different living conditions in different regions at the level of ordinary people, including slums, and thematically theorizing on the premise of certain processes that occurred over time. In the background, there were international exchange activities in which young people of different origins collaborated and learned from each other based on their experiences.

Furthermore, for each of the primary members who left important achievements, their exchange experiences when they were at the ATBAT had many meanings that resulted in activities in later years. Under Lods and Bossu, who replaced Le Corbusier who was a father figure, Hanning had the role of city planner, which included the position of a coordinator for leading architects in African cities. While globally appealing to the necessity for affordable housing, Candilis was fully aware of the necessity and considerations for designing based on the local context, through interaction with local residents in Morocco. His encounter with the “square house” performed an important role in the formation of “evolutionary housing.” Banshoya was fortunate that the “square house,” which was designed in the Seike laboratory, was directly placed in the context of the most advanced French planning theory when he came to France. He would continue to pursue the concept of “evolutionary housing” independently without blindly following the popular trend in Algeria.³⁰ Then, Bodiansky prepared a place for the activities of ATBAT and contributed as an advocate for new technology.

Modernism, which aims for universality that transcends regions, was formed by international exchanges that were based on regional characteristics. The ATBAT shows an example of the formation of such international exchange.

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The author declares no conflict of interest associated with this manuscript.

Notes

Note 1) Reference document 36, p. 407.

Note 2) Reference document 36, pp. 157-160.

Note 3) Reference document 15, pp. 87-108.

Note 4) Reference document 15, p. 8. It has been pointed out that the Chapelle Notre-Dame du Haut, which is Le Corbusier's masterpiece, was modeled after a sketch of the Sidi Brahim Mosque in Ghardaïa.

Note 5) Reference document 15, p. 89.

Note 6) The presented facts about Candilis in this chapter are based on pp. 180-206 of reference document 11, which is his autobiography; moreover, the relevant parts are indicated by the reference number.

Note 7) Reference document 34, p. 28. It is said that the period from 1949 to 1955 was the period of theoretical research, and the result was the concept of *Charte de l'Habitat*.

Note 8) The Japan office is located in the Building Research Institute (*Ken-Ken*).

Note 9) “*Bidon*” literally means “tin can,” but the meaning was changed to “something that looks like.”

Note 10) “*Annales de l'Institut Technique du Bâtiment et des Travaux Publics*,” October 1950.

Note 11) The French name is *l'Institut Technique Français du Bâtiment et des Travaux Publics du Maroc*.

Note 12) An outline of the description is shown in reference document 11, pp. 191-192.

Note 13) Reference document 11, pp. 194-195. Consequently, the university was built as a Bauhaus-style medium-rise campus.

Note 14) For example, reference document 5.

Note 15) According to the lecture record, the ATBAT was an international team consisting of architects, engineers, and city planners, and the headquarters was located at 10 Saint-Augustin street.

Note 16) It was published in the May 1955 issue of *Alger Revue*, which is described later.

Note 17) However, the term *Logement* (housing) is used here.

Note 18) Reference document 32, p. 218.

Note 19) From the research of Horoshi Sasaki, Le Corbusier's recommendation to the office of Candilis was based on “Le Corbusier's goodwill” (reference document 33, pp. 309-318). Conversely, in his autobiography, Candilis wrote that he had accepted “a Japanese named Suzuki” because of an introduction from Corbusier when he left the ATBAT (reference document 11, p. 199).

Note 20) Reference document 7. The original French text is as follows: *L'architecte crée la coquille, fixe et construit les machines (bloc sanitaire). Le reste, c'est l'habitant qui devient architecte suivant ses besoins, ses habitudes.*

Note 21) After Altounian, names are listed in alphabetical order by family name.

Note 22) Appointment as CSTB director from April 1951 (data from M.R.U., May 1954).

Note 23) Reference document 31, pp. 98-99.

Note 24) The outline is introduced in reference document 21, pp. 198-199.

Note 25) Reference document 11, pp. 202-203. Candilis persuaded the priest that the temporary housing was just an alibi, and that apartment houses should be built instead. Paul Dony of *Emmaüs* had discussions with them, such as moving to the same team.

Note 26) Reference document 11, pp. 196-197.

Note 27) In addition, the gypsies, who had been illegally occupying a corner of the old town of Avignon, were evacuated, and 60 residential areas were constructed as compensation. Candilis looked back saying that this situation reminded him of Morocco. Reference document 11, pp. 205.

Note 28) For example, Kato critically described the Sarcelles complex saying, “the development of construction technology through pre-fabrication is visible, while at the same time exposing all shortcomings of urban planning considerations.” He also evaluated Bagnols-sur-Cèze as an attempt to integrate the old and new towns. Reference document 23, pp. 108-116.

Note 29) The housing complex was completed around 1960.

Note 30) Reference document 11, p. 218.

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